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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

09/612,571

07/07/2000

Hideyuki Makitani

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01/12/2006

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EXAMINER

PHAM, THIERRY L

ART UNIT

PAPER NUMBER

2624

DATE MAILED: 01/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                               |                                    |  |
|------------------------------|-------------------------------|------------------------------------|--|
| <b>Office Action Summary</b> | Application No.<br>09/612,571 | Applicant(s)<br>MAKITANI, HIDEYUKI |  |
|                              | Examiner<br>Thierry L. Pham   | Art Unit<br>2624                   |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 21-25, 28, 29, 31-36, 39, 40 and 42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21, 22, 24, 25, 28, 29, 31-33, 35, 36, 39, 40 and 42 is/are rejected.
- 7) ☒ Claim(s) 23 and 34 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

- This action is responsive to the following communication: RCE filed on 11/3/05.
- Amendment to the Drawing (fig. 7) has been considered and entered by the examiner.
- Claims 21-25, 28-29, 31-36, 39-40, and 42 are pending.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 21-22, 24-25, 28-29, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeoka et al (US 6665082), and in view of Watanabe et al (US 5815283).

Regarding claim 21, Takeoka discloses a data communication system (fig. 1) comprising a first data communication unit (printer controller 10, fig. 1), and a second data communication unit (printer 20, fig. 1) communicating with said first data communication unit, one of said first and second data communication units comprising:

- a deciding unit (main CPU 11 of controller 10, fig. 1) adapted to decide a fixed packet length based upon information related to an upper limit packet length (amount of capable of being transmitted, col. 11, lines 60-65) in which a packet is capable of being transferred by said second data communication unit and information related to an allowable packet length (allowable limit, col. 12, lines 15-18) in which a packet is allowable of being transferred by said first data communication unit, and wherein said first communication unit comprises:
  - a generating unit (CPU 11, fig. 1) adapted to generate a plurality of packets having said fixed packet length (plurality of packets having same length, figs. 10-12) decided by said deciding unit, by dividing variable length data (dividing variable image data into fixed packet lengths, figs. 10-12, col. 13, lines 1-12) to be transferred from said first data communication unit to said second data communication unit into the plurality of packets;

Art Unit: 2624

- a storage unit (main memory 12, fig. 1) adapted to store the plurality of packets generated by said generating unit.

However, Takeoka fails to teach and/or suggest a DMA controller adapted to control DMA transfer.

Watanabe, in the same field of endeavor for image processing system (fig. 1-2), teaches a DMA controller adapted to control DMA transfer (DMA controller 23, fig. 3).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify transmission method of Takeoka to include a method for transfer using DMA transfer as per teachings of Watanabe because of a following reason: (1) DMA controller enables/improves high-speed data transferring (col. 7, lines 5-15, Watanabe) between printer controller and printer.

Therefore, it would have been obvious to combine Takeoka with Watanabe to obtain the invention as specified in claim 21.

Regarding claim 22, Takeoka further teaches the system according to claim 21, wherein said generating unit adds to each of the plurality of packets having said fixed packet length, information indicating whether the packet is a final packet (added-on packet information including data end packet information, fig. 3, col. 15, lines 44-50).

Regarding claim 24, Takeoka further teaches the system according to claim 21, wherein said first data length communication unit further comprises a first serial communication controller (serial transfer, col. 1, lines 39-45) for controller serial communication with second communication controller of said second data communication unit, said first serial communication controller converting the packets transferred by said DMA controller to a bit string (bit strings, fig. 21-22) and outputting said bit string to said second serial communication controller.

Regarding claim 25, Takeoka further teaches the system according to claim 21, wherein said first data communication unit receives the information related to the upper limit packet length (amount of capable of being transmitted, col. 11, lines 60-65)) of a packet which is

Art Unit: 2624

receivable by said second data communication unit, from said second data communication unit, when said first data communication unit comprises said deciding unit, or said second data communication unit receives the information related to the allowable packet length (allowable limit, col. 12, lines 15-18) from said first data communication unit when said second data communication unit comprises said deciding unit.

Regarding claim 28, Takeoka further teaches the system according to claim 21, wherein said deciding unit decides said fixed packet length in response to initialization (col. 15, lines 50-59, initialization is known in the art prior for transmission of any image data) of said data communication system.

Regarding claim 29, Watanabe further teaches the system according to claim 21, wherein said DMA controller (DMA controller 23, fig. 3) controls DMA transfer of the plurality of packets having said fixed packet length transmitted from said second data communication unit, to said storage unit.

Regarding claim 31, Takeoka further teaches the system according to claim 21, wherein said first data communication unit further comprises an image input unit for inputting image data (printer controller 10, fig. 1), and said second data communication unit further comprises an image processing unit for processing image data input by said image input unit (printer 20, fig. 1).

Regarding claims 32-33, 35-36, 39-40 recite limitations that are similar and in the same scope of invention as included to those in claims 21-22, 24-25, 28-29, and 31 above; therefore, claims 32-36, 39-40 are rejected for the same rejection rationale/basis as described in claims 21-22, 24-25, 28-29, and 31.

Regarding claim 42: Claim 42 is the methods corresponding the apparatus and recite limitations that are similar and in the same scope of invention as to those in claim 21; therefore, claim 42 are rejected for the same rejection rationale/basis as described in claim 21 above.

### ***Response to Arguments***

Applicant's arguments, see page 12, filed 11/3/05, with respect to claims 21, 30, 32, and 42 have been fully considered and are persuasive. The 112, 1<sup>st</sup> and 2<sup>nd</sup> paragraph rejection of claims 21, 30, 32, and 42 has been withdrawn.

Applicant's arguments, see pages 12-14, filed 11/3/05, with respect to the rejection(s) of claim(s) 21, 32, and 42 under 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of different interpretations of previous applied arts.

### ***Allowable Subject Matter***

Claims 23 & 34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thierry L. Pham whose telephone number is (571) 272-7439. The examiner can normally be reached on M-F (9:30 AM - 6:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on (571)272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

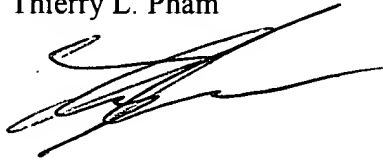
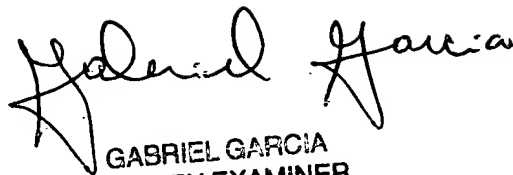
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Application/Control Number: 09/612,571

Page 6

Art Unit: 2624

Thierry L. Pham

A stylized handwritten signature in black ink, consisting of several overlapping loops and a long horizontal stroke at the end.A handwritten signature in black ink, written in a cursive style. The first part of the signature is a large, stylized 'G' followed by the name 'Garcia'.

GABRIEL GARCIA  
PRIMARY EXAMINER